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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/045,587	11/06/2001	Kent Ryhorchuk	10.0863(CIP)	9311
22474	7590	11/14/2005	EXAMINER	
DOUGHERTY CLEMENTS 1901 ROXBOROUGH ROAD SUITE 300 CHARLOTTE, NC 28211			PAYNE, DAVID C	
			ART UNIT	PAPER NUMBER
			2638	

DATE MAILED: 11/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/045,587	<b>Applicant(s)</b> RYHORCHUK ET AL.	
	<b>Examiner</b> David C. Payne	<b>Art Unit</b> 2638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 August 2005.  
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26,28 and 29 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 1-26,28 and 29 is/are rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☐ All b) ☐ Some \* c) ☐ None of:  
 1. ☐ Certified copies of the priority documents have been received.  
 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
 \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1-26, 28 and 29 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 5, 8-12, 14, 17-19, 21, 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Merli et al. US 6,088,141 (Merli) in view of Fee et al. US 5,914,794 (Fee) and Lindskog et al. US 6,665,262 B1 (Lindskog) and Davis et al. US 6,377,374 B1 (Davis).

Re claims 1, 8-10, 17, 24-26

Merli disclosed,

A system for detecting faults in an optical network, comprising: a first node (figure 1a, 102) and a second node (figure 1a, 104); and an amplifier (figure 1a, 262 or 264) coupled between the first node and the second node, the node configured to detect a fault on an optical link connecting the node and the first node and generate a fault report upon detection of the fault (e.g., col./line: 6/5-20). Merli further disclosed detecting loss of power or loss of signal (e.g., col./line: 4/35-50, 6/5-10).

Art Unit: 2638

Merli does not distinguish separate amplifier nodes for detecting the fault but rather incorporates amplification into each node that detects the fault. It would have been obvious to one ordinary skill in the art at the time of invention that placing the amplification and detection in separate nodes is no different than combining the amplification with the local nodes. Making parts separable is not patentable over the prior art.

Furthermore, the fault monitor (figure 2 #222) communicates with the network management system (116) but does not forward the fault report to the second node.

Fee disclosed an optical ring with fault management that communicates with an element manager (figure 1 – 43) while the fault information is propagated along the supervisory channels (figure 1 – 21a-n, e.g., col./line: 5/60-67, 6/1-6, 2/20-25). Furthermore it would have been obvious to one of ordinary skill in the art at the time of invention that add the Fee fault forward capability to the Merli invention for the benefit of a robust and highly fault tolerant orthogonal (“bridge and ladder”) detection and reporting system as discussed in Merli (e.g., col./line: 4/42-56).

Merli does not disclose directly forwarding the fault a node for action. Lindskog disclosed forwarding fault information directly to a fault agent that could take corrective action (see e.g., col./line: 3/10-35, 3/36-50). One would have been motivated to forward fault information in a manner such as Lindskog so that performing distributed fault management functions would provide a more robust fault tolerant infrastructure. It would have been obvious to one of ordinary skill in the art at the time of invention to forward fault information in the Merli system as did Lindskog so that a single failure of a faulty node would not disable the fault tolerant mechanism.

Merli does not disclose wherein the fault report comprises information regarding a planned restoration event. Davis disclosed a method of network restoration where a primary controller sends information regarding a restoration plan to other controllers in the network prior to performing the restoration, (e.g., col./line: 8/25-37, Figure 4B **step 432a**). It would have been obvious to one of ordinary skill in the art at the time of invention to send the restoration information along with the fault report as disclosed. One is motivated as such since prior notification of configuration changes supports a

Art Unit: 2638

hitless restoration scheme where live traffic can be moved or terminated prior to link disconnection.

Re claim 2, 11, 18

The modified system of Merli, Fee, Lindskog and Davis as discussed above is capable of forwarding error reports around failed nodes to nodes that are able to initiate a switching action to restore traffic thereby increasing fault tolerance (see Fee, e.g., col./line: 4/42-56).

Re claims 3, 12, 19

The modified system of Merli, Fee, Lindskog and Davis as discussed above disclosed wherein the fault report is forwarded until the fault report is received by a node which is capable of switching traffic. (see Fee, e.g., col./line: 5/61-67, 6/1-16).

Re claims 5, 14, 21

The modified system of Merli, Fee, Lindskog and Davis as discussed above disclosed wherein the amplifier (local node) is further configured to receive and pass a fault report from another amplifier node to the second node.(e.g., Fee, col./line: 5/60-67, 6/1-6, 2/20-25)

4. Claims 4, 6, 13, 15, 20, 22, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Merli et al. US 6,088,141 (Merli), Fee et al. US 5,914,794 (Fee), Lindskog et al. US 6,665,262 B1 (Lindskog) and Davis et al. US 6,377,374 B1 (Davis) as applied to claims 1, 10, 17 and 26 above, and further in view of Tada et al. US 5,532,862 (Tada).

Re claims 4, 6, 13, 15, 20, 22, 28

The modified system of Merli, Fee, Lindskog and Davis does not disclose prioritizing faults. Tada disclosed a fault prioritization generation and forwarding method. It would have been obvious to one of ordinary skill in the art at the time of invention to use the Tada fault priority method with the

Art Unit: 2638

modified system for the benefit efficiency and reduction of time required to restore traffic in a network as discussed by Tada (e.g., col./line: 2/55-65).

5. Claims 7, 16, 23 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Merli et al. US 6,088,141 (Merli), Fee et al. US 5,914,794 (Fee), Lindskog et al. US 6,665,262 B1 (Lindskog) and Davis et al. US 6,377,374 B1 (Davis) as applied to claims 1, 10, 17 and 26 above, and further in view of Cohen et al. US 4,736,359 (Cohen).

Re claims 7, 16, 23 and 29

The modified system of Merli, Fee, Lindskog and Davis does not disclose wherein the optical network is a bi-directional line switched ring network. Cohen disclosed a bi-directional line switched ring network with fault prioritization (e.g., col./line: 1/35-40). It would have been obvious to one of ordinary skill in the art at the time of invention to use the Cohen bi-directional line switched ring network with the modified system for the benefit of size and weight savings as discussed by Cohen (see. Col/line: 1/35-40).

Art Unit: 2638

**Conclusion**

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action.

Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David C. Payne whose telephone number is (571) 272-3024. The examiner can normally be reached on M-F, 7a-4p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dcp

  
David C. Payne  
Patent Examiner  
AU 2638